

# CONNECTING TO YOUR FUTURE

This newsletter, by the Western Wisconsin Workforce Development Board, Inc., was created to provide career and labor market information to educators and students.

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## Manufacturing



Are you interested in knowing about what goes into constructing a building, designing a machine that molds metal into automobiles, or creating new light-weight material that protects infants in car seats? Did you enjoy playing with toy trucks, Tinker Toys, or Legos so much that you didn't want to stop for lunch? Perhaps you enjoyed playing in your back yard with dirt and old wooden boards to make a fort?

Some of the workers in this cluster enjoy hands-on physical work that produces a manufactured product, while others want to play a supportive role in the manufacturing process, maybe even getting the finished products out of the factory and into the hands of retail stores where consumers may purchase them. If all of this sounds interesting to you, then manufacturing may be a career field for you!

Still not convinced?

- Manufacturing jobs are still higher paying – more than 20% higher than those in construction, services and retail. And manufacturers are leaders in employee training.

In 2003, average total compensation in manufacturing in the U.S. was nearly \$63,000 per year vs. an average of \$51,000 in the remainder of the economy.

- Manufacturing today is cleaner, more interesting and technology driven.

The three largest manufacturing industries in the U.S. today are chemicals, industrial machinery and equipment and electronics. Fifty years ago they were food, primary metals and motor vehicles.

- Manufacturing output has a history of outperforming the rest of the economy.

While U.S. economic growth increased at an average annual rate of 3.6% between 1992 and 2000, manufacturing's share grew 4.5% per year.

Sources: Junior Achievement Student Center <http://studentcenter.ja.org>, National Association of Manufacturer and U.S. Department of Commerce.

## Options in Manufacturing

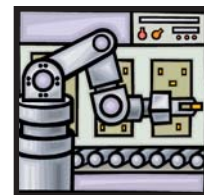
1. Production workers set-up, operate, and improve the manufacturing processes and schedules.
2. Process Development workers develop, implement, and improve the manufacturing process.
3. Quality Assurance workers ensure that the manufacturing system meets quality requirements as defined by the business and customers.
4. Health, Safety, and Environmental (HS&E) Assurance workers ensure that the manufacturing system meets HS & E requirements.
5. Maintenance, installation, and repair workers tend to the equipment on the manufacturing floor.
6. Logistics and Inventory Control workers plan and control the movement and storage of materials and products in the manufacturing system.

Source: Manufacturing Skill Standards - Council High Performance Manufacturing. McGraw Hill 2006.

## Bet You Didn't Know

- Manufacturing salaries and benefits average \$54,000, higher than the average for the total private sector. Two factors in particular attract workers to manufacturing: higher pay and benefits, opportunities for advance education and training.
- Manufacturing growth creates more additional economic activity and jobs than any other economic sector.
- The number of manufacturing establishments in our region increased by 3% from 1999-2003.

Source: Department of Labor, Bureau of Statistics, and Greg Flogstad of the Mississippi River regional Planning Commission



## Commercial or Industrial Designer

**Are you looking to use your creativity?** Look around you. For every product you see, someone designed; airplanes, cars, toys, lounge chairs, mountain bikes, toasters, cell phones, ball point pens; someone designed all that and more. You'll combine artistic talent with product research, customer insight, marketing, materials, and production methods to create the stuff people use in their daily lives.

As a Designer you'll get paid to be a creative thinker and work with everyone from engineers to consumers. From idea to full-fledged product, you'll be part of making it happen. If you're interested in specializing in industrial design, you'd typically concentrate on a subspecialty such as kitchen appliances, auto interiors, or plastic molding machinery. With just a little experience you could make roughly \$52,260 a year.

## Engineering

There are many different types of engineers in manufacturing working on aircraft, cars, electronics, biotechnology, etc. As an Electrical Engineer you'll be the brains behind the electrical part of engineering projects both big and small. Designing, maintaining, and improving everything from electrical instruments and equipment to facilities and products, that's your job.

Lots of planning goes into your work, so you'll most likely work in a team. You could be handling budgets, drawing blueprints, even writing reports and doing site surveys. Bridges, cars, power plants, microwaves, they all use electricity and they all need an engineer to help design them. The average annual salary for an Electrical Engineer is \$66,000.

To learn more visit <http://www.careervoyages.gov>

Source: Career Voyages

## Welding

Few career choices offer such vast options for employment and personal development as welding. From industry production lines, to the laboratory, to research and development, to national defense, to sales and repair, the varied welding industry impacts virtually every industry on the globe. From deep in the oceans to high above the planet, there is a position within the welding industry for ambitious, smart professionals ready to excel and achieve new heights!

Welding is the most common way of permanently joining metal parts. Heat is applied to the pieces to be joined, melting and fusing them to form a permanent bond. Because of its strength, welding is used to construct and repair parts of ships, automobiles, spacecraft, and thousands of other manufactured products. Welding is used to join beams when constructing buildings, bridges, and other structures, and pipes in nuclear power plants and refineries.

Average annual earnings for welders and welding machine operators is \$30,429 which relates to \$14.63 an hour. The middle fifty percent earn between \$12.54 to \$16.86 an hour.

Source: American Welding Society  
<http://www.aws.org/education/career.html>

